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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,138	10/03/2003	Tanya L. Niemeyer	59673-52	3651

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EXAMINER
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EVERHART, CARIDAD

ART UNIT	PAPER NUMBER
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2891

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/679,138	<b>Applicant(s)</b> NIEMEYER, TANYA L.	
	<b>Examiner</b> Caridad M. Everhart	<b>Art Unit</b> 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 and 39-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32, 39-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### Response to Arguments

Applicant has argued that Degani describes a system in which all portions of the image are analyzed and colored, and that Degani does not disclose automatic hierarchical analysis. These arguments are respectfully found to be not persuasive for the following reasons. Degani presents an automated analysis which results in the determination of malignant tumors (paragraph 0092 discloses that the apparatus carries out analysis in order to determine the presence of malignant tumor or other result). Paragraphs 0077, 0091, and 0092 disclose that the color intensities and their distributions are analyzed by the apparatus in order to output the results of malignant tumor or other tumor detection. Figure 9 shows that in the assigning of a color to the volume under analysis, there is a hierarchical procedure, as if the assignment is not red, then the next block determines if the color is green, etc. Paragraph 0071 indicates that red indicates fast wash out behavior, which is indicated by red color. Blue indicates fast wash-in, which would correspond to enhancement (paragraph 0065). New rejections in view of the prior art of record are found below.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5, 15, 16, 17, 18, 28, 29, 30, 31, 32, and 39-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Degani (US 2005/0038619A1).

Degani discloses a method for analyzing MRI contrast images(paragraph 0005 and 0006) and the analysis is done by machine and is a dynamic analysis and is both space and time dependent(paragraph 0005 and 0007). The process is contrast enhanced(paragraph 0011). The initial increase in intensity following the contrast administration is detected(paragraph 0057). Following this, the washout behavior of the tissue volume exhibiting washout behavior is analyzed(paragraph 0069 relates pixels to initial wash-in intensity and paragraph 0051 relates volume to pixel intensity, so that the volume is related to initial behavior in paragraph 0069, and the washout behavior is then analyzed as disclosed in paragraph 0057). The imaging is of the breast(paragraph 0005). Pixels are identified as associated with a malignancy(paragraph 0031), and as cited above, pixels are identified with voxels. Figures 13, 14, and 15 show three types of wash out behavior, with 14 showing plateau and 13 showing enhancement and 15 showing washout. The rate of change of the washout is an important parameter in detecting the malignancy, and the rate of change is the slope(paragraph 0005). The rate of change in signal intensity is an important parameter in detecting breast masses(paragraph 0005 and 0056) and an intensity function is calculated(paragraph 0056). The output is in the form of a curve with the intensity points calculated from 3 time points (3TP images) according to the method taught by Degani(Fig. 20). Degani further teaches software, which is computer readable medium for carrying out the calculations described and including the normalization calculations shown in paragraph 0084 (paragraph 0110). Degani also includes the disclosure included above in the response to arguments.

Degani does not state the term plateau.

It would have been obvious to one of ordinary skill in the art at the time of the invention that Degani encompasses plateau behaviour because Degani discloses that normal tissue exhibits the behaviour of greater areas of green when wash in and wash out are moderate(paragraph 0106), which would correspond to plateau behaviour.

Claims 6-14, and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desani as applied to claim 1 above.

Degani is silent with respect to the value of the slope recited and the steps as recited of comparing a slope to a threshold value.

Although Degani is silent with respect to the steps of comparing the slope, it would have been obvious to one of ordinary skill in the art at the time of the invention that Degani encompasses this step, as Degani discloses that there is a calibration map(paragraph 0010) that is calculated and therefore that values are compared by the apparatus and that the intensity function is one of the values calculated and therefore a calibration map would be generated for this value(paragraph 0056 and 0071) and that the slope of values are calculated and compared with the calculated value is disclosed by that the rate of change, which is the slope, is one of the parameters that is calculated and compared(paragraph 0070).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have chosen the recited value of the slope because the slope is a variable of the art, as shown by Degani in paragraph 0005 and in Fig. 13, 14, and 15 as cited above.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 571-272-1892. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. Everhart  
10-30-2005

*C. Everhart*  
CARIDAD M. EVERHART  
PRIMARY EXAMINER